

FAO World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD)

Genotyping Report (Final)

Date: 13 July 2010

FMDV type O

Country: Ecuador

Period: 2010

No. of isolates: 9

BATCH: WRLFMD/2010/00025

Note: The phylogenetic tree includes 6 partial VP1 sequences (~531 nt) of viruses isolated in Ecuador in 2009, kindly provided by Dra. R. Allende, Panaftosa, Brazil.



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FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 13/07/2010
WRLFMD Ref No: ECU/1/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00025	Checked by: D.P. King
Sender Ref: 18-310 0529814	
Location: Valle Hermoso, Santo Domingo, Santo Domingo De Los Tsachilas, Ecuador	Topotype: EURO-SA
Date collected: 18/05/2010	Genotype/strain: Unnamed
Date received by WRLFMD: 14/06/2010	Sequence filename: ECU10-01.SEQ
Date received for sequencing: 23/06/2010	Date sequence last updated: 24/06/2010
Species: Cattle	No. of Nt determined: 636
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 636
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2248
	Min. no. of nt for comparison: 500
	Total turn-around time: 29 days
	Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/3/2010	ECU10-03	636	636	0	100.00	0.00	EURO-SA	Unnamed
2	O/ECU/5/2010	ECU10-05	636	636	0	100.00	0.00	EURO-SA	Unnamed
3	O/ECU/9/2010	ECU10-09	636	636	0	100.00	0.00	EURO-SA	Unnamed
4	O/ECU/2/2010	ECU10-02	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/4/2010	ECU10-04	636	635	0	99.84	0.16	EURO-SA	Unnamed
6	O/ECU/7/2010	ECU10-07	636	635	0	99.84	0.16	EURO-SA	Unnamed
7	O/ECU/8/2010	ECU10-08	636	635	0	99.84	0.16	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	634	0	99.69	0.31	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	512	0	96.97	3.03	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	504	7	96.74	3.26	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	566	0	88.99	11.01	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	530	0	83.33	16.67	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	521	4	82.44	17.56	EURO-SA	O ₂
4	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	512	0	80.50	19.50	EURO-SA	unnamed
5	O/ISA/9/74 (AJ303502)	ISA74-09	636	512	0	80.50	19.50	ISA-1	unnamed
6	O/ETH/1/2007 (FJ798137)	ETH07-01	636	509	0	80.03	19.97	EA-3	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	636	509	0	80.03	19.97	ME-SA	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	509	0	80.03	19.97	EA-2	unnamed
9	O/MAL/1/98 (DQ165074)	MAL98-01	636	508	0	79.87	20.13	EA-2	unnamed
10	O/SUD/2/86 (DQ165075)	SUD86-02	636	508	0	79.87	20.13	EA-3	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: ECU/2/2010 Batch No: WRLFMD/2010/00025 Sender Ref: 21-313 0529814 Location: Pimocha, Babahoyo, Los Rios, Ecuador Date collected: 27/05/2010 Date received by WRLFMD: 14/06/2010 Date received for sequencing: 23/06/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 13/07/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EURO-SA Genotype/strain: Unnamed Sequence filename: ECU10-02.SEQ Date sequence last updated: 24/06/2010 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2248 Min. no. of nt for comparison: 500 Total turn-around time: 29 days Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/1/2010	ECU10-01	636	635	0	99.84	0.16	EURO-SA	Unnamed
2	O/ECU/3/2010	ECU10-03	636	635	0	99.84	0.16	EURO-SA	Unnamed
3	O/ECU/5/2010	ECU10-05	636	635	0	99.84	0.16	EURO-SA	Unnamed
4	O/ECU/9/2010	ECU10-09	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/4/2010	ECU10-04	636	634	0	99.69	0.31	EURO-SA	Unnamed
6	O/ECU/7/2010	ECU10-07	636	634	0	99.69	0.31	EURO-SA	Unnamed
7	O/ECU/8/2010	ECU10-08	636	634	0	99.69	0.31	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	633	0	99.53	0.47	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	511	0	96.78	3.22	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	503	7	96.55	3.45	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	565	0	88.84	11.16	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	529	0	83.18	16.82	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	520	4	82.28	17.72	EURO-SA	O ₂
4	O/ISA/9/74 (AJ303502)	ISA74-09	636	513	0	80.66	19.34	ISA-1	unnamed
5	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	511	0	80.35	19.65	EURO-SA	unnamed
6	O/IND/53/79 (AF292107)	IND79A53	636	510	0	80.19	19.81	ME-SA	unnamed
7	O/ETH/1/2007 (FJ798137)	ETH07-01	636	509	0	80.03	19.97	EA-3	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	509	0	80.03	19.97	EA-2	unnamed
9	O/MAL/1/98 (DQ165074)	MAL98-01	636	508	0	79.87	20.13	EA-2	unnamed
10	O/SUD/2/86 (DQ165075)	SUD86-02	636	508	0	79.87	20.13	EA-3	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: ECU/3/2010 Batch No: WRLFMD/2010/00025 Sender Ref: 22-320 0529814 Location: Apvela, Cotacachi, Imbabura, Ecuador Date collected: 30/05/2010 Date received by WRLFMD: 14/06/2010 Date received for sequencing: 23/06/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 13/07/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EURO-SA Genotype/strain: Unnamed Sequence filename: ECU10-03.SEQ Date sequence last updated: 24/06/2010 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2248 Min. no. of nt for comparison: 500 Total turn-around time: 29 days Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/1/2010	ECU10-01	636	636	0	100.00	0.00	EURO-SA	Unnamed
2	O/ECU/5/2010	ECU10-05	636	636	0	100.00	0.00	EURO-SA	Unnamed
3	O/ECU/9/2010	ECU10-09	636	636	0	100.00	0.00	EURO-SA	Unnamed
4	O/ECU/2/2010	ECU10-02	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/4/2010	ECU10-04	636	635	0	99.84	0.16	EURO-SA	Unnamed
6	O/ECU/7/2010	ECU10-07	636	635	0	99.84	0.16	EURO-SA	Unnamed
7	O/ECU/8/2010	ECU10-08	636	635	0	99.84	0.16	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	634	0	99.69	0.31	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	512	0	96.97	3.03	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	504	7	96.74	3.26	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	566	0	88.99	11.01	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	530	0	83.33	16.67	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	521	4	82.44	17.56	EURO-SA	O ₂
4	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	512	0	80.50	19.50	EURO-SA	unnamed
5	O/ISA/9/74 (AJ303502)	ISA74-09	636	512	0	80.50	19.50	ISA-1	unnamed
6	O/ETH/1/2007 (FJ798137)	ETH07-01	636	509	0	80.03	19.97	EA-3	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	636	509	0	80.03	19.97	ME-SA	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	509	0	80.03	19.97	EA-2	unnamed
9	O/MAL/1/98 (DQ165074)	MAL98-01	636	508	0	79.87	20.13	EA-2	unnamed
10	O/SUD/2/86 (DQ165075)	SUD86-02	636	508	0	79.87	20.13	EA-3	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 13/07/2010
WRLFMD Ref No: ECU/4/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00025	Checked by: D.P. King
Sender Ref: 23-325 0529814	
Location: Alluriquin, Santo Domingo, Santa Domingo De Los Tsachplas, Ecuador	Topotype: EURO-SA
Date collected: 30/05/2010	Genotype/strain: Unnamed
Date received by WRLFMD: 14/06/2010	Sequence filename: ECU10-04.SEQ
Date received for sequencing: 23/06/2010	Date sequence last updated: 01/07/2010
Species: Cattle	No. of Nt determined: 636
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 636
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2248
	Min. no. of nt for comparison: 500
	Total turn-around time: 29 days
	Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/1/2010	ECU10-01	636	635	0	99.84	0.16	EURO-SA	Unnamed
2	O/ECU/3/2010	ECU10-03	636	635	0	99.84	0.16	EURO-SA	Unnamed
3	O/ECU/5/2010	ECU10-05	636	635	0	99.84	0.16	EURO-SA	Unnamed
4	O/ECU/9/2010	ECU10-09	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/2/2010	ECU10-02	636	634	0	99.69	0.31	EURO-SA	Unnamed
6	O/ECU/7/2010	ECU10-07	636	634	0	99.69	0.31	EURO-SA	Unnamed
7	O/ECU/8/2010	ECU10-08	636	634	0	99.69	0.31	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	633	0	99.53	0.47	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	512	0	96.97	3.03	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	504	7	96.74	3.26	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	567	0	89.15	10.85	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	531	0	83.49	16.51	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	522	4	82.59	17.41	EURO-SA	O ₂
4	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	513	0	80.66	19.34	EURO-SA	unnamed
5	O/ISA/9/74 (AJ303502)	ISA74-09	636	511	0	80.35	19.65	ISA-1	unnamed
6	O/ETH/1/2007 (FJ798137)	ETH07-01	636	510	0	80.19	19.81	EA-3	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	636	510	0	80.19	19.81	ME-SA	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	510	0	80.19	19.81	EA-2	unnamed
9	O/MAL/1/98 (DQ165074)	MAL98-01	636	509	0	80.03	19.97	EA-2	unnamed
10	O1/Manisa/TUR/69 (AY593823)	TUR69--G	636	508	0	79.87	20.13	ME-SA	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: ECU/5/2010 Batch No: WRLFMD/2010/00025 Sender Ref: 26-317 0529814 Location: Pedro Vicente Maldonado, Pedro Vicente Maldonado, Pichincha, Ecuador Date collected: 31/05/2010 Date received by WRLFMD: 14/06/2010 Date received for sequencing: 23/06/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 13/07/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EURO-SA Genotype/strain: Unnamed Sequence filename: ECU10-05.SEQ Date sequence last updated: 01/07/2010 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2248 Min. no. of nt for comparison: 500 Total turn-around time: 29 days Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/1/2010	ECU10-01	636	636	0	100.00	0.00	EURO-SA	Unnamed
2	O/ECU/3/2010	ECU10-03	636	636	0	100.00	0.00	EURO-SA	Unnamed
3	O/ECU/9/2010	ECU10-09	636	636	0	100.00	0.00	EURO-SA	Unnamed
4	O/ECU/2/2010	ECU10-02	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/4/2010	ECU10-04	636	635	0	99.84	0.16	EURO-SA	Unnamed
6	O/ECU/7/2010	ECU10-07	636	635	0	99.84	0.16	EURO-SA	Unnamed
7	O/ECU/8/2010	ECU10-08	636	635	0	99.84	0.16	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	634	0	99.69	0.31	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	512	0	96.97	3.03	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	504	7	96.74	3.26	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	566	0	88.99	11.01	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	530	0	83.33	16.67	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	521	4	82.44	17.56	EURO-SA	O ₂
4	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	512	0	80.50	19.50	EURO-SA	unnamed
5	O/ISA/9/74 (AJ303502)	ISA74-09	636	512	0	80.50	19.50	ISA-1	unnamed
6	O/ETH/1/2007 (FJ798137)	ETH07-01	636	509	0	80.03	19.97	EA-3	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	636	509	0	80.03	19.97	ME-SA	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	509	0	80.03	19.97	EA-2	unnamed
9	O/MAL/1/98 (DQ165074)	MAL98-01	636	508	0	79.87	20.13	EA-2	unnamed
10	O/SUD/2/86 (DQ165075)	SUD86-02	636	508	0	79.87	20.13	EA-3	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: ECU/6/2010 Batch No: WRLFMD/2010/00025 Sender Ref: 28-315 0529814 Location: Shushufindi, Shushufindi, Sucumbios, Ecuador Date collected: 31/05/2010 Date received by WRLFMD: 14/06/2010 Date received for sequencing: 23/06/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 13/07/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EURO-SA Genotype/strain: Unnamed Sequence filename: ECU10-06.SEQ Date sequence last updated: 24/06/2010 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2248 Min. no. of nt for comparison: 500 Total turn-around time: 29 days Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/1/2010	ECU10-01	636	634	0	99.69	0.31	EURO-SA	Unnamed
2	O/ECU/3/2010	ECU10-03	636	634	0	99.69	0.31	EURO-SA	Unnamed
3	O/ECU/5/2010	ECU10-05	636	634	0	99.69	0.31	EURO-SA	Unnamed
4	O/ECU/9/2010	ECU10-09	636	634	0	99.69	0.31	EURO-SA	Unnamed
5	O/ECU/2/2010	ECU10-02	636	633	0	99.53	0.47	EURO-SA	Unnamed
6	O/ECU/4/2010	ECU10-04	636	633	0	99.53	0.47	EURO-SA	Unnamed
7	O/ECU/7/2010	ECU10-07	636	633	0	99.53	0.47	EURO-SA	Unnamed
8	O/ECU/8/2010	ECU10-08	636	633	0	99.53	0.47	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	510	0	96.59	3.41	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	502	7	96.35	3.65	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	564	0	88.68	11.32	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	530	0	83.33	16.67	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	521	4	82.44	17.56	EURO-SA	O ₂
4	O/ISA/9/74 (AJ303502)	ISA74-09	636	512	0	80.50	19.50	ISA-1	unnamed
5	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	510	0	80.19	19.81	EURO-SA	unnamed
6	O/IND/53/79 (AF292107)	IND79A53	636	509	0	80.03	19.97	ME-SA	unnamed
7	O/ETH/1/2007 (FJ798137)	ETH07-01	636	507	0	79.72	20.28	EA-3	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	507	0	79.72	20.28	EA-2	unnamed
9	O1/Manisa/TUR/69 (AY593823)	TUR69--G	636	507	0	79.72	20.28	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	636	506	0	79.56	20.44	ME-SA	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 13/07/2010
WRLFMD Ref No: ECU/7/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00025	Checked by: D.P. King
Sender Ref: 25-318 0529814	
Location: Gulea, Quito, Pichinja, Ecuador	Topotype: EURO-SA
Date collected: 01/06/2010	Genotype/strain: Unnamed
Date received by WRLFMD: 14/06/2010	Sequence filename: ECU10-07.SEQ
Date received for sequencing: 23/06/2010	Date sequence last updated: 24/06/2010
Species: Cattle	No. of Nt determined: 636
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 636
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2248
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 500
	Total turn-around time: 29 days
	Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/8/2010	ECU10-08	636	636	0	100.00	0.00	EURO-SA	Unnamed
2	O/ECU/1/2010	ECU10-01	636	635	0	99.84	0.16	EURO-SA	Unnamed
3	O/ECU/3/2010	ECU10-03	636	635	0	99.84	0.16	EURO-SA	Unnamed
4	O/ECU/5/2010	ECU10-05	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/9/2010	ECU10-09	636	635	0	99.84	0.16	EURO-SA	Unnamed
6	O/ECU/2/2010	ECU10-02	636	634	0	99.69	0.31	EURO-SA	Unnamed
7	O/ECU/4/2010	ECU10-04	636	634	0	99.69	0.31	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	633	0	99.53	0.47	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	511	0	96.78	3.22	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	503	7	96.55	3.45	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	565	0	88.84	11.16	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	529	0	83.18	16.82	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	520	4	82.28	17.72	EURO-SA	O ₂
4	O/ISA/9/74 (AJ303502)	ISA74-09	636	513	0	80.66	19.34	ISA-1	unnamed
5	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	511	0	80.35	19.65	EURO-SA	unnamed
6	O/IND/53/79 (AF292107)	IND79A53	636	509	0	80.03	19.97	ME-SA	unnamed
7	O/ETH/1/2007 (FJ798137)	ETH07-01	636	508	0	79.87	20.13	EA-3	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	508	0	79.87	20.13	EA-2	unnamed
9	O/ISA/8/83 (AJ303503)	ISA83-08	636	507	0	79.72	20.28	ISA-1	unnamed
10	O/MAL/1/98 (DQ165074)	MAL98-01	636	507	0	79.72	20.28	EA-2	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: ECU/8/2010 Batch No: WRLFMD/2010/00025 Sender Ref: 27-319 0529814 Location: Pedro Vicente Maldonado, Pedro Vicente Maldonado, Pichincha, Ecuador Date collected: 01/06/2010 Date received by WRLFMD: 14/06/2010 Date received for sequencing: 23/06/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 13/07/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EURO-SA Genotype/strain: Unnamed Sequence filename: ECU10-08.SEQ Date sequence last updated: 24/06/2010 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2248 Min. no. of nt for comparison: 500 Total turn-around time: 29 days Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/7/2010	ECU10-07	636	636	0	100.00	0.00	EURO-SA	Unnamed
2	O/ECU/1/2010	ECU10-01	636	635	0	99.84	0.16	EURO-SA	Unnamed
3	O/ECU/3/2010	ECU10-03	636	635	0	99.84	0.16	EURO-SA	Unnamed
4	O/ECU/5/2010	ECU10-05	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/9/2010	ECU10-09	636	635	0	99.84	0.16	EURO-SA	Unnamed
6	O/ECU/2/2010	ECU10-02	636	634	0	99.69	0.31	EURO-SA	Unnamed
7	O/ECU/4/2010	ECU10-04	636	634	0	99.69	0.31	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	633	0	99.53	0.47	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	511	0	96.78	3.22	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	503	7	96.55	3.45	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	565	0	88.84	11.16	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	529	0	83.18	16.82	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	520	4	82.28	17.72	EURO-SA	O ₂
4	O/ISA/9/74 (AJ303502)	ISA74-09	636	513	0	80.66	19.34	ISA-1	unnamed
5	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	511	0	80.35	19.65	EURO-SA	unnamed
6	O/IND/53/79 (AF292107)	IND79A53	636	509	0	80.03	19.97	ME-SA	unnamed
7	O/ETH/1/2007 (FJ798137)	ETH07-01	636	508	0	79.87	20.13	EA-3	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	508	0	79.87	20.13	EA-2	unnamed
9	O/ISA/8/83 (AJ303503)	ISA83-08	636	507	0	79.72	20.28	ISA-1	unnamed
10	O/MAL/1/98 (DQ165074)	MAL98-01	636	507	0	79.72	20.28	EA-2	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: ECU/9/2010 Batch No: WRLFMD/2010/00025 Sender Ref: 29-326 0529814 Location: Ramon Campana, Pangua, Cotopaxi, Ecuador Date collected: 01/06/2010 Date received by WRLFMD: 14/06/2010 Date received for sequencing: 23/06/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 13/07/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EURO-SA Genotype/strain: Unnamed Sequence filename: ECU10-09.SEQ Date sequence last updated: 24/06/2010 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2248 Min. no. of nt for comparison: 500 Total turn-around time: 29 days Sequencing time: 20 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ECU/1/2010	ECU10-01	636	636	0	100.00	0.00	EURO-SA	Unnamed
2	O/ECU/3/2010	ECU10-03	636	636	0	100.00	0.00	EURO-SA	Unnamed
3	O/ECU/5/2010	ECU10-05	636	636	0	100.00	0.00	EURO-SA	Unnamed
4	O/ECU/2/2010	ECU10-02	636	635	0	99.84	0.16	EURO-SA	Unnamed
5	O/ECU/4/2010	ECU10-04	636	635	0	99.84	0.16	EURO-SA	Unnamed
6	O/ECU/7/2010	ECU10-07	636	635	0	99.84	0.16	EURO-SA	Unnamed
7	O/ECU/8/2010	ECU10-08	636	635	0	99.84	0.16	EURO-SA	Unnamed
8	O/ECU/6/2010	ECU10-06	636	634	0	99.69	0.31	EURO-SA	Unnamed
9	O/ECU/Esmeraldas-018/2009	ECU09-AA	528	512	0	96.97	3.03	EURO-SA	Unnamed
10	O/ECU/Imbabura-057/2009	ECU09-AD	521	504	7	96.74	3.26	EURO-SA	Unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O1/BFS 1860/UK/67 (AY593815)	UKG67--G	636	566	0	88.99	11.01	EURO-SA	O ₁
2	O3/VEN/51 (AJ004645)	VEN51-O3	636	530	0	83.33	16.67	EURO-SA	O ₃
3	O2/Brescia/ITL/47 (M55287)	ITL47--A	632	521	4	82.44	17.56	EURO-SA	O ₂
4	O/Corrientes/ARG/06 (DQ834727)	ARG06-AA	636	512	0	80.50	19.50	EURO-SA	unnamed
5	O/ISA/9/74 (AJ303502)	ISA74-09	636	512	0	80.50	19.50	ISA-1	unnamed
6	O/ETH/1/2007 (FJ798137)	ETH07-01	636	509	0	80.03	19.97	EA-3	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	636	509	0	80.03	19.97	ME-SA	unnamed
8	O/KEN/5/2002 (DQ165073)	KEN02-05	636	509	0	80.03	19.97	EA-2	unnamed
9	O/MAL/1/98 (DQ165074)	MAL98-01	636	508	0	79.87	20.13	EA-2	unnamed
10	O/SUD/2/86 (DQ165075)	SUD86-02	636	508	0	79.87	20.13	EA-3	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV O in Ecuador in 2009-2010

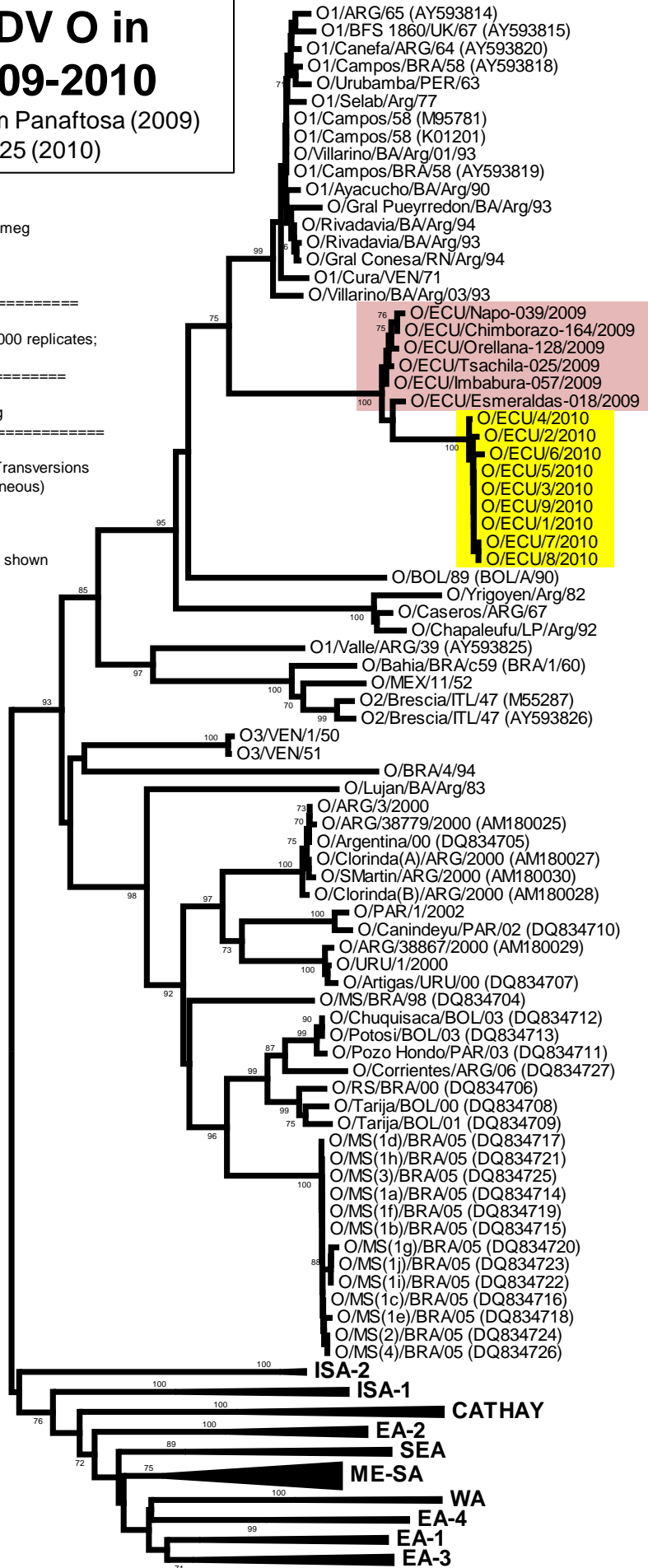
Partial VP1 sequences from Panaftosa (2009)
Batch: WRLFMD/2010/00025 (2010)

Software: MEGA 4.0
No. of Taxa : 115
Data File : n:\evd\meg\db\fm\vd\o\ECU2010a.meg
Data Title : O Ecuador 2010
Data Type : Nucleotide (Coding)
Analysis : Phylogeny reconstruction
Tree Inference : =====
->Method : Neighbor-Joining
->Phylogeny Test and options : Bootstrap (1000 replicates; seed=93151)
Include Sites : =====
->Gaps/Missing Data : Pairwise Deletion
->Codon Positions : 1st+2nd+3rd+Noncoding
Substitution Model : =====
->Model : Nucleotide: Kimura 2-parameter
->Substitutions to Include : d: Transitions + Transversions
->Pattern among Lineages : Same (Homogeneous)
->Rates among sites : Uniform rates
No. of Sites : 642
No Of Bootstrap Reps = 1000
Only bootstrap values of 70% and above are shown

* , not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 13 July 2010

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EURO-SA